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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/610,499	06/30/2003	Andrew J. Bradbury	11836.0690.CPUS00	5361

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EXAMINER	
RICHARD, CHARLES R	
ART UNIT	**PAPER NUMBER**
1712	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/610,499	BRADBURY ET AL.	
	Examiner	Art Unit	
	C. R. Richard	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) *1-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-17 and 19-22* is/are rejected.

7)☒ Claim(s) *14 and 18* is/are objected to.

8)☒ Claim(s) *1-22* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☒ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-10, drawn to a wellbore fluid, classified in class 507, subclass 103.

II. Claims 11-22, drawn to a method of making an additive for a fluid, classified in class 427, subclass 457.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of making. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the process as claimed may, for example, be used to make an additive without an oil phase or one that would have insufficient density to be suitable for use as a well bore fluid.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Applicant's attorney, Carter White, on September 21, 2005, a provisional election was made without traverse to prosecute the invention of group II (claims 11-22). Affirmation of this election must be made by Applicant in replying to this Office action. Claims 1-10 are withdrawn from further

consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Priority

2. Applicant's priority claim is acknowledged; however, the present application is a CIP, so the claims are not automatically accorded the date of the priority applications. The Examiner notes that the present specification has the teaching (at page 7, lines 17-19) "[t]he same process of grinding can be carried out by substituting an oleaginous (oil) based fluid for the aqueous based fluid", yet neither this nor a similar teaching appears to be in any of the priority documents. Apparently, addition of this matter was at least one of the reasons for the present application's filing as a CIP. Claims depending on this teaching will only be accorded the actual filing date of the present application without regard to any priority claimed.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it does not give the residence address, mailing address or citizenship for inventor Bradbury.

Note that a copy of a Notice of Informal Application dated 3/19/2004 corresponding is attached as a courtesy to Applicant. Applicant should handle this Notice as appropriate.

Specification

4. The disclosure is objected to because of the following informalities. The title describes compositions, while the claims elected are to methods of making a fluid additive.

In addition, Applicant is reminded that the abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract ***not exceed 150 words in length*** since the space provided for the abstract on the computer tape used by the printer is limited.

Appropriate correction is required.

Claim Objections

5. Claim 14 is objected to because of the following informalities. The form of Markush group chosen requires the last member of the group to be preceded by the word "and" instead of the word "or" Applicant has used. In addition, the phrase, "synthetic oils such as alpha-olefin oils" is objected to as it borders on indefinite. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The type of average molecular weight in these claims is not specified. Is it weight average or number average? Also, is this the molecular weight for the polymer before or after the comminuting?

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 11-12, 16 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Groves et al. in US Patent 3,065,172. Groves concerns an additive for a well fluid.

The additive according to Groves comprises a surface active agent (dispersant) and a finely divided solid comprising particles in the size range of 0.005 to 2 microns (see column 2, lines 26-30). The solid particles may be calcium carbonate or barium

sulfate [barite] (see column 2, lines 45-55). Surface active agents/dispersants that may be used include sulfonates (such as metal/alkali metal/alkaline earth metal soaps of alkyl or alkaryl sulfonic acids) and metal soaps of carboxylic acids (see column 2, line 58 to column 3, line 2). Prior to milling, the additive may be present as a slurry in water or an oil diluent (see column 6, lines 35-38); most (not necessarily all) liquid should be driven off before or during milling for a successful operation (see column 7, lines 1-12). A ball or similar mill may be used (see column 7, line 15). A petroleum oil may be added to the additive while it is still in the milling apparatus (see column 8, lines 33-43). The additive resulting from the milling would be suitable for increasing the density of a fluid and would be colloidal and coated with dispersant.

10. Claims 11 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Falcon-Steward in US Patent 4,166,582. Falcon concerns the comminution of materials. Note that this reference corresponds to the British Patent Specification 1,599,632 mentioned by Applicant on page 7, line 15 of the specification.

Falcon teaches a method where an aqueous suspension of solid material (comprising calcium carbonate) and a dispersant is comminuted by agitating this aqueous suspension with a particulate grinding medium; the solid particles resulting are at least 60% by weight smaller than 2 microns (see column 2, lines 15-37). Dolomite may be used as the solid (see column 4, lines 57-66).

Note that Applicant has described the comminuting here as grinding "within an agitated fluidized bed of a particulate grinding medium" at page 7, lines 15-17 of the specification. This is a reasonable interpretation of Falcon.

The method taught by Falcon would produce colloidal particles coated with a dispersant suitable for increasing the density of a fluid.

11. Claims 11 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Lillmars in US Patent 5,307,938. Lillmars teaches a treatment for iron ore.

The method of Lillmars involves grinding an aqueous slurry of iron oxide and a dispersant polymer (see claim 1) where the iron oxide may be magnetite or hematite (see column 3, lines 35-40). This would produce a coated colloidal particle suitable for use to increase the density of a fluid.

12. Claims 11-12 and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchanan et al. in US Statutory Invention Registration H987. Buchanan teaches the ball milling of barium titanate and zirconium dioxide in a liquid containing fatty oils, a material such as oleic acid and an alcohol among other components (see column 3, lines 1-57). The material produced from the ball milling is a dispersant coated colloidal that can be used to increase the density of a fluid.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 11-14, 17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves in US Patent 3,065,172 in view of GB 1,414,964, Falcon-Steward in US Patent 4,166,582 and/or WO 97/45625. The WO reference is available as a 102(b) type reference as to claims 12-20 (see discussion under the Priority heading above).

The disclosures of Groves have been discussed above in detail. Groves teaches all of the limitations of the rejected claims in the proper context, except for the specific oleaginous liquids of claims 13-14 and the specific dispersants of claims 17 and 19-20.

As to the liquids called out in claims 13, from the teaching in Groves concerning oil diluent, petroleum oil and ball milling (see above), one of ordinary skill in the art would have realized that there would be an upper limit as to the viscosity of the oil used

in order for the milling to be effective and that low flash point fluids would not be good choices due to heat build up during milling; thus, one of ordinary skill in the art would have been motivated to find oils of suitable viscosity and flash point for use in the methods of Groves, and would have used oils within the scope of the limitations of claim 13 in the process of this search. Thus, claim 13 is rendered obvious.

As to the liquids called out in claim 14, from the teaching in Groves concerning oil diluent and petroleum oil (see above), one of ordinary skill in the art would have instantly envisioned some or all of the common oils called out in claim 14, in particular diesel and mineral oils, and it would have been obvious for this artisan to employ these specific oils in the methods of Groves, rendering claim 14 obvious. Additional and more specific motivation for the use of diesel can be found in the WO reference at page 12, lines 6-11, where diesel is used in a context very similar to the use of an oil in Groves.

As to the polymers in claims 17 and 19-20, Groves teaches a surfactant/ dispersant coating for particles such as calcium carbonate. GB 1,414,964 teaches polymeric deflocculants [surfactants/dispersants] for particles such as calcium carbonate (see column 1 of the GB reference); these dispersants are specifically mentioned at column 3, lines 20-30 in the Falcon patent (see above discussion of this patent) for use in the methods there that are very similar to those of Groves. The plymers of the GB reference may have a number average molecular weight of 700 to 10,000 (see column 1, lines 40-45 of the GB reference). One preferred polymer is a copolymer of acrylic acid and the methyl ester of acrylic acid (see column 3, lines 15-25 of the GB reference) – which can be fairly classified as a polymeric acrylate ester given

what is called out in present claim 18. From these teachings, it would have been obvious to one of ordinary skill in the art to employ the polymers of GB 1,414,964 as dispersants in the methods of Groves. Further, one of ordinary skill in the art would have made polymers in the weight ranges called out in claims 19 and 20 in the process of optimizing these polymers in the methods of Groves. Thus, claims 17 and 19-20 are rendered obvious. Note that the WO reference teaches polymers similar to those of the GB reference in a similar context at page 5 of the WO reference.

Double Patenting

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims 11-12,14, and 22 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 28-31

and 42-44 of copending Application No. 10/274,528. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claims 28 and 42 of the reference, individually as written, each disclose an embodiment within the scope of rejected claim 11 rendering it at least obvious. Correspondingly, claims 29 and 43 of the reference separately render rejected claim 12 at least obvious, and claims 30 and 44 of the reference separately render rejected claim 14 at least obvious.

Claim 28 of the reference teaches all of the limitations of rejected claim 22 in the proper context, except for the use of any of the specific solids recited in the rejected claim. These solids are taught by claim 31 of the reference. It would have been obvious to one of ordinary skill in the art to use the solids of claim 31 of the reference in the method of claim 28 of the reference, since a specific choice of solid must be made. Thus, rejected claim 22 is rendered obvious.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

17. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. US Patents 4,325,514; 6,380,136 and 6,821,326 disclose methods at least similar to those of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. R. Richard whose telephone number is 571-272-8502. The examiner can normally be reached on M-Th, 8am-6pm and alternate Fridays, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C R Richard

PHILIP TUCKER
PRIMARY EXAMINER
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CONFIRMATION NO. 5361

27551
STEPHEN H. CAGLE
HOWREY SIMON ARNOLD & WHITE LLP
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HOUSTON, TX 77057

FORMALITIES LETTER

OC000000012147576

Date Mailed: 03/19/2004

NOTICE OF INFORMAL APPLICATION

This application is considered to be informal since it does not comply with the regulations for the reason(s) indicated below. The period within to correct the informalities noted below and avoid abandonment is set in the accompanying Office action.

Items Required To Avoid Processing Delays:

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A new oath or declaration, identifying this application number is required. The oath or declaration does not comply with 37 CFR 1.63 in that it:
- does not identify the residence (e.g., city and either state or foreign country) of each inventor.
- does not identify the complete mailing or post office address of each inventor.
- does not identify the citizenship of each inventor.

Replies should be mailed to: Mail Stop Missing Parts
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A copy of this notice MUST be returned with the reply.

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